Appendix A

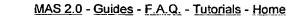


testMAS: Pressure Sintering



This Process:





Basic Info More Info Production Geometry Design Guide Sample Parts Material Use Pros / Cons <u>Variations</u> **Theory**

All Processes:

Links



Basic Information

One process of forming parts of powdered material parts is by compressing the powdered material, metals, or ceramics, in a die and then sintering the piece thus formed. The powder is molded to the required shape, normally at room temperature, by the application of high-tonnage compacting pressure. No binder or adhesive material is used in this operation. Then, the piece is heattreated by the process known as sintering to induce optimal strenath.

Sintering occurs in a controlled-atmosphere furnace where the green piece (piece straight from compaction) is heated to a temperature close to but not at melting. This is done so that particles may bond by solid state bonding, but not melt. Although both non-metallic and metal powders are used in sintering this web page concentrates on powdered metals.

As applied to ferrous powder metallurgy, the sintering process can be defined as "a method of controlled atmosphere diffusion bonding particles to produce an engineering material."